Apparatus and method for NOx- and/or SOx-regeneration of an NOx storage catalyst

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Inventor:	POTT EKKEHARD DR (DE)
Applicant:	VOLKSWAGENWERK AG (DE)
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Cited documents:

- EP0903481
- GB2303565
- US5956942
- EP0822323
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Abstract of EP1106798

A diesel engine (10) has an NOx and/or COx exhaust gas (12) storage catalytic converter (18) which is regenerated by exposure to a supply of reduction agent. The reduction agent is supplied as an increased mass flow with the exhaust gas, either by a supplementary injection of fuel into the diesel engine (10) or into the exhaust system (12). An independent claim is also included for an apparatus for the above process. Preferred Features: The supplementary injection during the regeneration is alternately activated and de-activated. The variation in fuel supply is regulated to optimize the match between burning fuel and the available oxygen. The regeneration is sub-divided into active and inactive phases, suppressing the formation of strong odors and undesirable gases especially hydrogen sulfide and ammonia. The duration of the active and/or inactive phases is regulated preferably in accordance with the sulfur load, a current lambda value, the catalyst temperature, or a defined motor operating condition. With progressive increase in the required regeneration duration, the active and/or inactive phases are progressively shortened. The volume of supplementary fuel injected during the active phases is varied according to engine load, current lambda value, catalyst temperature, or a defined motor operating parameter, and is reduced with increasing regeneration duration period.
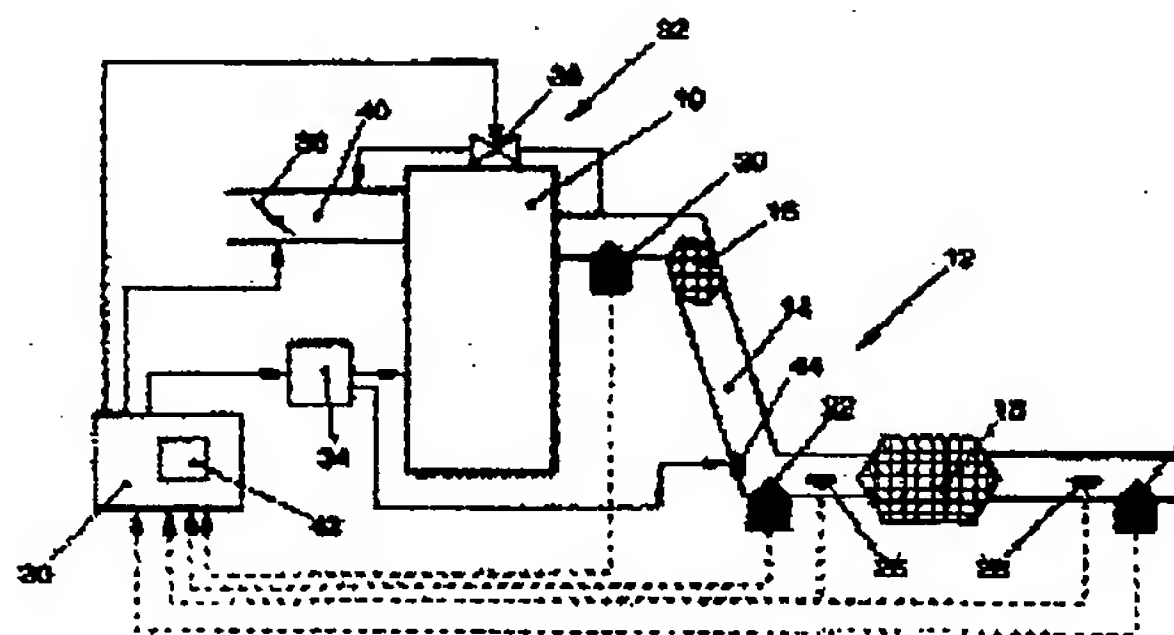
FIG. 1

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